



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,405	03/20/2001	Yukari Katayama	520.39904X00	4099
20457	7590	08/24/2004	EXAMINER	
ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-9889			DADA, BEEMNET W	
			ART UNIT	PAPER NUMBER
			2135	

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/811,405

Applicant(s)

KATAYAMA ET AL.

Examiner

Beemnet W Dada

Art Unit

2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. Claims 1-9 have been examined.

#### ***Drawings***

2. The drawings are objected to because the unlabeled rectangular boxes shown in the drawings should be provided with descriptive text labels. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 4, 8 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Ueda et al. (hereinafter referred to as Ueda) (US Patent No. 6,289,102 B1).

5. As per claim 1, Ueda teaches An optical disk apparatus for recording data on a disk by light, and reading the data recorded on the disk by utilizing a difference in reflectance (recording and reading data on DVD or CD-ROM), wherein the disk apparatus scrambles data by an arbitrary seed to be written on the disk (i.e., random initial value (arbitrary seed) used for scrambling data is recorded on the disk) [column 8, lines 1-29, 39-62 and figures 2, 3 and 9].

6. As per claim 3, Ueda teaches a method of scrambling data in an optical disk apparatus adapted to record data on a disk by light and read the data recorded on the disk by utilizing a difference in reflectance (recording and reading data on DVD or CD-ROM), comprising the steps of: adding seed data for scrambling to an original data to be recorded on the disk (i.e.,

random initial value (arbitrary seed) used for scrambling data is recorded on the disk) [column 8, lines 1-29, 39-62 and figures 2, 3 and 9]; and determining one-bit scrambled data by using one-bit original data or seed data, and multiple-bit past scrambled data [column 16, lines 3-24 and column 29, lines 1-19].

7. As per claim 4, Ueda teaches the apparatus as applied above. Furthermore, Ueda teaches the apparatus further comprising: means for generating a fixed scrambled bit string with a period longer than that in a mode used in the scrambling (i.e., generating random numbers in a shift register using XOR and shifting operation, see column 16, lines 3-13); and a means for performing exclusive OR operation of an original data and every bit (note that scrambling only requires XOR operations of original data and every bit, i.e., scrambling requires a period lesser than generating fixed bit string) [column 16, lines 13-24].

8. As per claim 8, Ueda teaches the apparatus as applied above. Furthermore, Ueda teaches the apparatus further comprising: means for performing exclusive OR operation of M-sequence data obtained by scrambling seed data only and every bit of the data to conduct re-scrambling [column 16, lines 3-24 and column 29, lines 1-19].

9. As per claim 9, Ueda teaches the apparatus as applied above. Furthermore, Ueda teaches the apparatus, wherein the seed data is placed immediately in front of a fixed SYNC pattern, and seed data to be used is previously determined depending on the position in a sector [column 8, lines 1-25].

10. Claims 2, 5 and 7 are rejected under 35 U.S.C. 102(a) as being anticipated by Kees (Reference U).

11. As per claim 2, Kees teaches an optical disk reproducing apparatus for reading data recorded on a disk by utilizing a difference in reflectance (DVD, CD and CD-ROM, see Preface), wherein the disk reproducing apparatus de-scrambles data scrambled by an arbitrary seed without a seed (note that data reproducing side, de-scrambles data by deleting the seed data, see, page 262, 1<sup>st</sup> paragraph, page 265, 1<sup>st</sup> paragraph and page 266).

12. As per claim 5, Kees teaches the apparatus as applied above. Furthermore, Kees teaches the apparatus further comprising: a means for generating a fixed scrambled bit string with a period longer than that of a mode for determining de-scramble, and a means for performing exclusive OR operation of data de-scrambled by de-scrambling and every bit of the bit string [pages 263-265].

13. As per claim 7, Kees teaches the apparatus as applied above. Furthermore, Kees teaches the apparatus further comprising: a means for correcting an error of data read from the disk, and a means for de-scrambling the data subjected to error correction [pages 263-265].

### ***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda (US Patent No. 6,289,102 B1) in view of Moriya et al. (hereinafter referred to as Moriya) (US Patent No. 5,867,475).

16. As per claim 6, Ueda teaches the method as applied above. Ueda does not explicitly teach means for adding an error correcting code to the scrambled data after the scrambling, and a means for writing data to which the error correcting code is added on the disk. However Moriya teaches an optical disk apparatus, including means for adding an error correcting code to a scrambled data after the scrambling, and a means for writing data to which the error correcting code is added on the disk [column 18, lines 19-65]. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include means for adding an error correcting code to the scrambled data after the scrambling, and a means for writing data to which the error correcting code is added on the disk as per teachings of Moriya into the optical disk apparatus of Ueda, in order to have a reliable error correction means by adding error correction code after data scrambling.

### ***Conclusion***

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO Form 892.

Application/Control Number: 09/811,405  
Art Unit: 2135

Page 7


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beemnet W Dada whose telephone number is (703) 305-8895. The examiner can normally be reached on Monday - Friday (8:30 am - 6:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on (703) 305-4393. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Beemnet Dada

August 17, 2004



KIM VU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100